What is claimed is:

1. A method for capping a stem web, said stem web having a backing and a plurality of stems having a diameter "d" extending from the backing, the method comprising:

passing the stem web through a first nip against a first heated nip roll so as to partially cap the stems;

cooling the stem web; and

passing the stem web through a second nip against a surface of a second heated nip roll to completely cap the stems to a diameter "D", wherein said capped stems have a D:d ratio of at least 1.5:1.

2. The method according to claim 1, wherein the D:d ratio is at least 1.65:1.

3. The method according to claim 1, wherein during the passing steps the stem web is moved at a line speed of at least 30 m/minute.

4. The method according to claim 1, wherein the cooling step is performed by contacting the stem web against a cooled roll.

5. The method according to claim 4, wherein the first nip is between the first heated nip roll and the cooled roll.

6. The method according to claim 5, wherein the second nip is between the second heated nip roll and the cooled roll.

7. The method according to claim 6, wherein the cooled roll has a diameter of at least 30% larger than the diameter of the first nip roll.

8. The method according to claim 7, wherein the diameter of the cooled roll is at least 30% larger than a diameter of the second heated nip roll.

9. The method according to claim 1, wherein the cooling step is performed by a directing a cooling fluid onto a surface of said stem web.

10. The method according to claim 4, wherein the stem web contacts the cooled roll for at least 20% of its circumference.

11. The method according to claim 6, wherein forces between the first heated nip roll and the cooled roll, and forces between the second heated nip roll and the cooled roll, are measured at both ends of each roll, and wherein
the measurements are used to adjust positions of the rolls.

12. The method according to claim 1, wherein the width of the stem web is 1 meter wide or greater.

13. An apparatus for capping a stem web, said stem web having a backing and a plurality of stems extending from the backing, the apparatus comprising:
a cooled roll;
a first heated nip roll positioned to form a first nip with the cooled roll;
a second heated nip roll positioned to form a second nip with the cooled roll;
sensors for measuring forces between the first heated nip roll and the cooled roll, and forces between the second heated nip roll and the cooled roll, at both ends of each roll, and
actuators for adjusting positions of the rolls based on the output of the sensors.

14. The apparatus according to claim 13, wherein the cooled roll has a diameter that is at least 30% larger than a diameter of the first heated nip roll.

15. The apparatus according to claim 14, wherein the diameter of the cooled roll is at least 30% larger than a diameter of the second heated nip roll.

16. An apparatus for capping a stem web, said stem web having a backing and a plurality of stems having a diameter "d" extending from the backing, the apparatus comprising:

a first heated nip roll positioned to provide a first capping nip;

a second heated nip roll positioned to provide a second capping nip;

means for cooling the web between the first and the second capping nips so that the second heated nip roll completely caps the stems to a diameter "D", wherein the capped stems have a D:d ratio of at least 1.5:1.

17. The apparatus according to claim 16, wherein the cooling means is a cooled roll.

18. The apparatus according to claim 17, wherein first capping nip is between the first heated nip roll and the cooled roll, and wherein the second capping nip is between the second heated nip roll and the cooled roll.

19. The apparatus according to claim 18, further comprising

sensors for measuring forces between the first heated nip roll and the cooled roll, and forces between the second heated nip roll and the cooled roll, at both ends of each roll, and

actuators for adjusting positions of the rolls based on the output of the sensors.

20. The apparatus according to claim 18, wherein the cooled roll has a diameter that is at least 30% larger than a diameter of the first heated nip roll.

21. The apparatus according to claim 18, wherein the diameter of the cooled roll is at least 30% larger than the diameter of the second heated nip roll.

22. The apparatus according to claim 16, wherein the D:d ratio is at least 1.65:1.

23. A method for making an abrasive article, the method comprising:

providing stem web comprising a backing having a first and second, opposite major surfaces, and a plurality of stems having a diameter "d" and extending from at least a portion of the first major surface of the backing;

passing the stem web through a first nip against a first heated nip roll so as to partially cap the stems;

cooling the web;

passing the stem web through a second nip against a second heated nip roll so as to completely cap the stems stems to a diameter "D", wherein the capped stems have a D:d ratio of at least 1.5:1.; and

applying an abrasive layer onto at least a portion of the second major surface.

24. The method according to claim 23, wherein the D:d ratio is at least 1.65:1.

25. The method according to claim 24, wherein applying the abrasive layer onto at least a portion of the second major surface is conducted prior to passing the stem web through the second nip.

26. The method according to claim 24, wherein applying the abrasive layer includes:

applying a make coat onto at least a portion of the second major surface of the backing;

at least partially embedding abrasive particles in the make coat;

at least partially curing the make coat;

applying a size coat over at least a portion of the at least partially cured make coat and abrasive particles; and

curing the size coat.

27. The method according to claim 23, wherein the cooling step is performed by contacting the stem web against a cooled roll.

28. The method according to claim 27, wherein the first nip is between the first heated nip roll and the cooled roll.

29. The method according to claim 28, wherein the second nip is between the second heated nip roll and the cooled roll.

30. The method according to claim 29, wherein the cooled roll has a diameter that is at least 30% larger than the diameter of the first nip roll.

31. The method according to claim 30, wherein the diameter of the cooled roll is at least 30% larger than the diameter of the second heated nip roll.

32. The method according to claim 23, wherein the cooling step is performed by directing a cooling fluid onto the stem web.

33. The method according to claim 29, wherein forces between the first heated nip roll and the cooled roll, and forces between the second heated nip roll and the cooled roll, are measured at both ends of each roll, and wherein

the measurements are used to adjust positions of the rolls.

34. A method for capping a stem web, said stem web having a backing and a plurality of stems having a diameter "d" extending from the backing, the method comprising:

passing the stem web through a first nip so as to partially cap the stems;

cooling the stem web; and

passing the stem web through a second nip to completely cap the stems to a diameter "D", wherein said capped stems have a

D:d ratio of at least 1.5:1.

35. The method according to claim 34, wherein the cooling step is performed by contacting the stem web against a cooled roll.

36. The method according to claim 35, wherein the first nip is between a first heated nip roll and the cooled roll.

37. The method according to claim 36, wherein the second nip is between a second heated nip roll and the cooled roll.

38. The method according to claim 36, wherein the cooled roll has a diameter of at least 30% larger than the diameter of the first nip roll.

39. The method according to claim 37, wherein the diameter of the cooled roll is at least 30% larger than a diameter of the second heated nip roll.

40. The method of claim 34, wherein said stem web after cooling has an elastic modulus of at least 14 times greater than an elastic modulus of said stem web at a temperature equal to a surface temperature at said second nip.